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10/628,942	07/29/2003	Gerardus G.P. Van Gorkom	PHN 16,984A	9092

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EXAMINER

LIANG, REGINA

ART UNIT PAPER NUMBER

2629

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/628,942
Filing Date: July 29, 2003
Appellant(s): VAN GORKOM, GERARDUS G.P.

MAILED

NOV 22 2006

Technology Center 2600

Robert M. McDermott
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/15/06 appealing from the Office action mailed 4/19/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,771,321	Stern	6-1998
5,631,664	Adachi et al	5-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 19, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Stern (US Patent No. 5,771,321).

As to claim 19, Stern discloses Stern discloses a display device comprising: a light guide (12, Fig. 4A, 4B); a moveable element (28); and selection means to locally bring the movable element into contact with the light guide (see Figs. 4A, 4B, and also see col. 11, line 58 to col. 11, line 2). Stern further discloses an anti-adhesion layer (e.g. transparent form of Teflon, see col. 13, lines 32-52 or the stand-off elements 46, 54 as shown in Fig. 4B, see col. 10, lines 46-60) on the side at which the contact is made between the movable element and the light guide.

As to claim 21, Stern discloses the movable element is electrically conducting and at a fixed potential (col. 13, lines 3-12).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 10-11, 13-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stern (US Patent No. 5,771,321)

As to claims 1, 11, 22, Stern discloses a display device comprising: a light guide (12, Fig. 4A, 4B); a moveable element (28); and selection means to locally bring the movable element into contact with the light guide (see Figs. 4A, 4B, and also see col. 11, line 58 to col. 11, line 2). It is noted Stern does not specifically disclose the moveable element is situated in an evacuated space below 0.1 atmosphere. However, Stern teaches that the moveable member is located in an evacuated space, e.g. see col. 43 lines 17-33, and in operation of the mechanical taps, they also provide an escape route for any air trapped between a tap beam and either the light storage plate or the viewing substrate as the tap beam is actuated toward the plate or substrate. The holes are preferably of such a small size in relation to the overall tap beam size that they do not impact the mechanical properties of the tap beam (col. 41, lines 40-46). In other words, there is no air being trapped in the space so that the air space between the light guide and the moveable member would be maintained in a low-pressure condition. Thus, it would have been obvious to one of ordinary skill in the art to have realized to maintain the space in a lower pressure so that the moveable member can be moved up and down more easily. The number of the atmosphere is considered as an obvious design choice since it might depend on the size and weight of the movable member and the voltage required to move the movable member.

As to claim 3, Stern discloses the substrate electrodes counteracts the static force and cause the tap beam to flex upward against the viewing substrate stand-offs (col. 13, lines 45-52). It would have been obvious to a person of ordinary skill in the art to remove or counteract or to

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prevent a static charge from the movable element because doing so would prevent fluctuation of the display due to static charge and thereby improve display quality.

As claims 5, 14, Stern discloses the light guide is provided with anti-adhesion layer (e.g. transparent form of Teflon, see col. 13, lines 36-37) on the side facing the movable element.

As to claim 10, Stern discloses the movable element is arranged between the light guide and a further element (54), and the selection means comprises means for locally generating a force causing the movable element to move toward the light guide as well as a force causing the movable element to move towards the further element (see Figs. 4A, 4B).

As to claim 13, Stern discloses the movable element is electrically conducting and at a fixed potential (col. 13, lines 3-12).

As to claim 15, Stern discloses a surface of the movable element facing the light guide is a same material as a surface of the light guide facing movable element (e.g. they both are transparent material).

4. Claims 2, 4, 8-9, 12, 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stern (US Patent No. 5,771,321) in view of Adachi et al. (US Patent No. 5,631,664)

As to claims 2, 12, 20, Stern discloses Stern discloses a display device comprising: a light guide (12, Fig. 4A, 4B); a moveable element (28); and selection means to locally bring the movable element into contact with the light guide (see Figs. 4A, 4B, and also see col. 11, line 58 to col. 11, line 2). Stern further discloses the selection means comprises electrodes (e.g. electrodes 60, 62, 64, Fig. 4E) and , in operation, the movable element (28), provided that is in

contact with the light guide, contacts the light guide, thus causing light to be emitting through the movable element. It is noted that Stern does not disclose that the electrode is transparent electrode and the light is transmitted through the transparent electrode. Adachi is cited to teach a display device including transparent electrode (col. 3, line 22) and an electrical light emitted portion caused light emitted portion to selectively emit light through transparent electrode (col. 3, lines 35-39). It would have been obvious to one of ordinary skill in the art to have modified Stern with the features of the transparent electrode so that the transparent electrode can be placed on the surface of the movable element at the light emitted portion without blocking the light.

As to claim 4, Stern discloses the movable element is electrically conducting and at a fixed potential (col. 13, lines 3-12).

As to claim 8, Stern discloses that there is no liquid between the movable element and the light guide (e.g. Stern discloses that the air is filled between the movable element and the light guide).

As to claims 9, 18, it is noted Stern does not specifically disclose the moveable element is situated in an evacuated space below 0.1 atmosphere. However, Stern discloses that in operation of the mechanical taps, they also provide an escape route for any air trapped between a tap beam and either the light storage plate or the viewing substrate as the tap beam is actuated toward the plate or substrate. The holes are preferably of such a small size in relation to the overall tap beam size that they do not impact the mechanical properties of the tap beam (col. 41, lines 40-46). In other words, there is no air being trapped in the space so that the air space between the light guide and the moveable member would be maintained in a low-pressure condition. Thus, it would have been obvious to one of ordinary skill in the art to have realized to maintain the space

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in a lower pressure so that the moveable member can be moved up and down more easily. The number of the atmosphere is considered as an obvious design choice since it might depend on the size and weight of the movable member and the voltage required to move the movable member.

As to claim 16, Stern discloses the movable element is arranged between the light guide and a further element (54), and the selection means comprises means for locally generating a force causing the movable element to move toward the light guide as well as a force causing the movable element to move towards the further element (see Figs. 4A, 4B).

As to claim 17, Stern discloses a surface of the movable element facing the light guide is a same material as a surface of the light guide facing movable element (e.g. they both are transparent material).

(10) Response to Argument

Appellant's remarks regarding claims 19 and 21 on pages 4-6 are not persuasive. First, appellant argues the ion-implanted layer 66 of Stern cannot be said to correspond to an anti-adhesion layer since the layer of material is provided to facilitate "holding the beam in contact", this is not persuasive. Col. 13, lines 32-52 of Stern teaches the layer 66 in Fig. 5 having embedded electret produces corresponding attractive image charge in the tap beam electrode 47, apply a sufficiently large potential difference between the tap beam electrodes 47 and the electrode 44 causes the top beam (moveable element) to flex upward against the viewing substrate stand-offs 46, upon removal of the potential different, the attractive electret force on the layer 66 causes deflection of the tap beam downward and into contact with the storage plate mesa 26 (light guide), in another words, the attractive electret on the layer 66 cause the tap beam

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to be removed from the viewing substrate stand-offs 46, i.e. cause the tap beam to not adhere or stick to the viewing substrate stand-offs 46. Thus, layer 66 of Stern corresponds to an anti-adhesion layer for removing the tap beam (movable element) from contacting with the viewing substrate stand-off 46, therefore, the layer 66 of Stern corresponds to an anti-adhesion layer as claimed.

In the alternative, appellant argues the stand-off elements 54 are discrete elements that do not form an anti-adhesion layer, as the term “layer” is conventionally interpreted, and as the term is used in the applicant’s specification, this is not persuasive. Stern teaches the stand-offs 46 located on the lower side of the line electrodes 44, the stand-offs 54 located on the lower side of the tap beam 28 (movable element). As agreed by appellant, Stern’ stand-offs (46, 54) act to suppress Van der Waals contact forces that could develop between two surfaces thereby reduce the likelihood that strong “stiction” forces develop (page 5 fifth paragraph of the answer), clearly the stand-offs (46, 54) of Stern provide anti-adhesion. Stern also discloses the stand-offs are formed from a substrate (e.g. see col. 10, lines 46-53 “one or more viewing substrate stand-offs”), a substrate clearly reads on a “layer” as is conventionally interpreted. Thus, the stand-offs (46, 54) of Stern correspond to an adhesion layer as claimed.

Appellant’s remarks regarding claim 1 on pages 6-7 are not persuasive. Stern teaches that the moveable member is located in an evacuated space, e.g. see col. 43 lines 17-33. Since this space is extremely small and as such the pressure would obviously be very low, and as set forth in the rejection the specific value for this low pressure is deemed an obvious design choice and not patentable. And it’s been held that obvious design choices such as specific or optimum values are not patentable.

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Appellant's remarks regarding claim 2 on pages 8-9 are not persuasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Adachi is cited to teach a display device having transparent electrodes, and using the transparent electrodes would not block the light passing through; thus providing a motivation to combine Stern and Adachi.

In response to applicant's argument that "a sandwich structure is not required in a "mechanical" embodiment, such as Stern's and a transparent electrode is not required", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

(11) Related Proceeding(s) Appendix

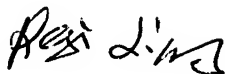
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Regina Liang



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For
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